

An Essay
on the
Nature and Treatment of Fractures
Respectfully Submitted
To the Faculty
of the
Homoeopathic Medical College
of Pennsylvania
By

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Nature and treatment of Fractures.

When we look around our world, and see the vast number of the human race that have been rendered cripples by the mis-treatment of fractures, it brings to our minds the great importance of the surgeon making himself acquainted with this branch of his profession so that he may remedy this great evil. And by so doing he will not only be of service to his fellow beings but he will benefit his own self. For who would give business to the man who has once made a gross blunder whereby he has needlessly rendered his patient

a cripple during the rest of his days on earth? And how exceedingly annoying it must be to the practitioner ever after to look upon the person upon whom he has caused such a deformity. Nature has very wisely devised means so that with human aid fractured bones may be firmly and permanently united. And it devolves upon the surgeon to assist her in this great work. As the treatment of fractures is one of the most common duties of the surgeon and one that he is liable to be called

upon to perform without a
moment's preparation it is
of the utmost importance
that he should make him-
self thoroughly acquainted
with every thing that pertains
to their nature and treatment.
The first-thing to be taken into
consideration in this branch of
surgery is the manner in which
the fracture is occasioned.

Fractures are the result (either
directly or indirectly) of some
external violence. Those caused
by direct-violence are as a general
thing much more serious than
those occasioned by indirect-force
as the soft-parts are very liable

To be greatly injured as in
the case of a gun shot wound
or the crushing of a limb by
a wheel. By direct violence the
bones are snapped as it were
between a resisting substance
on one side and the weight
of the body on the other as
for example a person may
jump from a high stand
and alight on his feet thus
causing a fracture of the femur.
The long bones are the most
liable to this kind of frac-
ture and are generally broken
at their most convex portion.
Violent muscular action is
the frequent cause of fracture.

as in the patella or the acromi-
on process. The predisposing can-
ses of fractures are numerous.
Some bones are extremely liable
for the reason that they are used
for support - as the bones of the
arm and fore arm. The shape
of a bone predisposes it - to frac-
ture thus the long slender bone
is more liable to fracture than
the short - thick one. certain
parts are more liable as where
powerfull muscles are attached
or where they are near exposed
situations. Age has much to
do with the frequency of frac-
tures thus old or young per-
sons are more liable than

the middle aged for the reason
that in young persons the bones
are not completely ossified and
will not bear much violence
and in old people the bones
contain a less amount of an-
imal matter which consequent-
ly renders them more brittle.

Bones may be weakened by
certain diseases such as syphilis
or mercurial diseases.

Males are more liable to
fractures than females they
being more exposed to danger.

Fractures are divided into two
great classes. Simple and
Compound. The simple fracture
is where the bone is merely broken.

The compound is when the soft-parts - are ruptured so that the broken bone has a communication with the external surface. The directions of fractures are three in number transverse, oblique and longitudinal. The transverse is generally caused by direct violence. The oblique is caused by indirect-violence the breaking force being applied to the extremities and not the shaft of the bone. The longitudinal may arise from a variety of causes. The signs of fracture are as follows.

1st Change of shape of the part.

2^d nd unnatural mobility, and 3^d rd th Crepitus. The change of shape may be caused by the force that produced the fracture or what is more generally the case the contraction of muscles that are attached to the broken fragments.

Preter natural mobility cannot exist without fracture but you may have fracture without mobility as where the two ends of bone are wedged together. Crepitus is the grating together of the fragments of bone. It may be either heard or felt. This is certainly one of the most valuable

signs to diagnose fractures.
but it cannot always ^{be} obtained
as when the fracture is trans-
verse and the broken bones
are drawn past each other
or the bones may be impac-
ted. When the practitioner
comes in contact with such
cases he should spare no
pains. but make a thor-
ough examination of the
part injured. although it
may give his patient much
pain yet it is doing him a
great kindness.

In the treatment of fractures
the great aim of the surgeon
should be not only to

obtain a sound and strong limb but - one that presents as little deformity as possible. The question at - once arises how is this to be accomplished? The broken bone must - be brought in as direct - apposition as possible and the recurrence of displacement prevented. and the local and constitutional condition of the patient properly attended to. When the surgeon is called to treat a fracture if it be one that will require the patient to be kept in bed for any length of time

he must see that the bed is suitably prepared by being made hard flat and firm. The best is the hair mattress. He next proceeds to the examination of the injury. After he has satisfied himself with respect to the fracture the part should be placed in an easy position until any apparatus that may be required has been prepared. When all is ready he must proceed with the reduction. This should be done as soon as possible for after a short space of time the muscles

become shortened and rigid
therefore rendering much
more force necessary to ac-
complish the same end.

The limb should be in
that position that the bulk
of muscle will be relaxed
by this means a great deal
of force and pain to the
patient will be avoided.

After the reduction means
must be employed to pre-
vent the recurrence of
displacement. This is ac-
complished by means of
a variety of bandages and
splints. It would be useless
for us to enumerate all the

different varieties of splints
as they are as numerous as
the people that have used
them. The dressings of a
fracture should be applied
quite loosely at first - or the
limb may swell and pro-
duce strangulation.

Very complicated apparatuses
should be avoided as much
as possible for they are not-
only liable to get out of
repair and position, but
they are very cumbersome
to the patient. The sur-
geon can manufacture from
wood, paste-board and
gutta-percha all that is

necessary in the treatment
of any fracture. and gen-
erally under the most un-
favorable circumstances.

Very good success has followed
the use of the starch ban-
dage. Numerous accidents
are liable to occur during
the treatment of fractures
which the surgeon should
understand. They are of
two varieties General and
Special of the first variety
the most common are. Tet-
anus. Traumatic delirium
and erysipelas. Among the
special are abscess. Oedema
gangren and spasm of the

muscles of the limb. In order to prevent these conditions the general health of the patient must be carefully attended to the room being well ventilated nourishing diet allowed and long confinement to bed avoided by the use of the starch bandage. But if these conditions should occur they must be combated with the proper remedies.

Much more could be written upon this important subject but the want of time compels us to close.